

Case Reports

Low-Dose Propranolol Therapy for Aborting Migraine

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ERGOTAMINE GIVEN ORALLY has been the mainstay therapy for aborting acute migraine headaches despite questionable efficacy,^{1,2} significant side effects³ and toxicity.⁴ Propranolol hydrochloride administration, meanwhile, has been found to be effective and safe in the prophylactic treatment of migraine.^{5,6} Little attention has been given to propranolol as an abortive agent, however; in 1978 Tokola and Hokkanen⁷ reported in a letter that an uncontrolled series of patients with acute episodes of migraine was successfully treated with administration of 40 to 120 mg of propranolol. Headache pain resolved or lessened in 53 percent of their patients in two hours without any serious adverse reactions. The following case reports reemphasize the abortive value of giving low doses of propranolol to some migraine patients.

Reports of Cases

CASE 1. A 33-year-old housewife with a 13-year history of occasional classic and frequent common migraine headaches was placed on a regimen of 10 mg of propranolol taken four times a day for frequent severe, unilateral, throbbing headaches associated with nausea and lasting 48 to 72 hours. A month after starting propranolol therapy, the patient reported she had discovered that she could abort headaches within 30 minutes by taking 10 mg of propranolol at the start of one. She had discontinued daily propranolol use in favor of abortive use, which, after 18 months of therapy, continues to control her headaches.

CASE 2. A 48-year-old male business executive with an 18-year history of occasional severe, unilateral, frontal, throbbing headaches associated with nausea and vomiting was started on a regimen of propranolol, 10 mg four times a day, for a one-week history of daily headaches of the same pattern. At his next visit, the patient reported that he had found that a single 10-mg tablet of propranolol taken at the onset of a headache totally alleviated the attack in 15 to 30 minutes. He had discontinued daily propranolol use. Abortive propranolol therapy is still effective after 36 months of use.

CASE 3. A 53-year-old housewife with a "lifelong"

history of headaches often associated with nausea and a pressure-band sensation around her head, and often lasting three to four days, discovered that one to four 10-mg propranolol tablets taken at the onset of a headache would shorten the duration of the headache and reduce its intensity within 60 minutes. This effect was augmented by taking aspirin simultaneously with the propranolol. A trial of propranolol prophylaxis was discontinued because of severe fatigue and weakness. Abortive propranolol therapy was effective for eight months before being discontinued on abatement of her headaches.

CASE 4. A 50-year-old woman, a secretary, with a 27-year history of frequent episodes of throbbing bilateral maxillary pain radiating to the left temple and associated with nausea and vomiting, was started on propranolol prophylaxis, 10 mg taken three times a day. She returned after finding that administration of 30 to 40 mg of propranolol, if taken at the onset of the pain, aborted or reduced the intensity and duration of her headache within 30 to 60 minutes. She subsequently became depressed on propranolol prophylaxis of taking 40 mg four times a day and currently continues to use propranolol effectively in an abortive fashion, 40 months after first noting the effect.

CASE 5. A 29-year-old woman, who is a telephone company representative and the daughter of the patient in case 4, had a 16-year history of pain very similar to her mother's. She was started on propranolol prophylaxis, 40 mg taken three times a day. Within a month the patient reported that her headaches were effectively aborted in 15 to 30 minutes by taking 40 mg of propranolol and two aspirin tablets at the beginning of a headache. Propranolol alone was less effective, aspirin alone was ineffective. The patient discontinued prophylactic use of propranolol in favor of abortive use, which continues to be effective after 36 months of use.

CASE 6. A 35-year-old male physician with a 20-year history of frequent throbbing, unilateral, frontal headaches associated with nausea was started on prophylactic propranolol therapy, taking 20 mg three times a day. Within two weeks he reported that his headaches were relieved or greatly attenuated in 30 minutes by taking 20 mg of propranolol at their onset. He discontinued daily prophylaxis in favor of abortive use of propranolol, which he continues to find effective after 15 months of use.

Discussion

In these six cases propranolol therapy was apparently effective in aborting acute migraine headaches, mostly in patients who had common migraine. Because pro-

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propranolol is not approved for abortive use,⁸ none of these patients was instructed to take the medication in this fashion; all discovered spontaneously the abortive effect, which occurred with 10 to 40 mg taken orally. The action of the drug usually became manifest at about 30 minutes and was not accompanied by untoward effects. The effective dose and the time needed for relief of symptoms were both less in this series than in that of Tokola and Hokkanen.⁷ Propranolol thus appears to be useful and safe as an abortive agent in some migraine patients. The reported combined effectiveness of aspirin and propranolol in two cases implies possible synergism, which needs further investigation.

The mechanism of action of propranolol in migraine is not known.⁶ Propranolol is rapidly absorbed after oral administration, has a peak effect at 1 to 1½ hours and a half-life of three to six hours.⁸ It is contraindicated in bronchospastic lung disorders, congestive heart failure, cardiac conduction defects and in patients receiving hypoglycemic therapy or monoamine oxidase inhibitors.

Because the effect of placebo in acute migraine appears to be great,¹ controlled trials comparing propranolol with placebo and other abortive agents are indicated to determine the abortive value of propranolol therapy; no such trials have been reported in the literature to date. Other issues to examine include the optimal dose of propranolol, the factors involved in selecting patients best suited for abortive therapy with propranolol and the effectiveness of propranolol use alone versus propranolol with aspirin. If propranolol is effective as an abortive agent, it may offer many advantages over oral ergotamine, which may be no more effective than placebo^{1,2} and with chronic use may be associated with increasing headache, nausea, peripheral vascular insufficiency and neuropathy.^{4,9} Propranolol could be the aborting agent of choice for migraine patients who have hypertension, coronary artery disease, thyrotoxicosis or peripheral vascular disease. In addition, some patients who are successfully managed on propranolol prophylaxis may be controlled on abortive therapy alone, thus reducing the cost and potential side effects of daily prophylactic use. Propranolol has received curiously little attention as an agent for aborting acute migraine; it is time to define its utility in this role.

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Successful Medical Management of Bilateral Ureteral Obstruction Due to Acute Uric Acid Nephropathy

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URINARY TRACT OBSTRUCTION can present in several guises depending on the acuteness of onset, degree of obstruction and location. Acute unilateral obstruction as with stones occurs with hematuria and severe flank pain resulting from a sudden rise in renal pelvic pressures to levels exceeding 50 mm of mercury.¹ Partial bilateral obstruction may give no signs or symptoms referable to the genitourinary tract, yet a patient may have advanced renal failure. Anuria with or without pain occurs with complete bilateral obstruction, depending on the time course. Management of all of these forms of obstruction is directed towards the cause, with a surgical procedure often done in many clinical situations. Whereas nonsurgical treatment is possible for small stones (usually less than 5 mm), some blood clots or sloughed papillae, a patient with flank pain, azotemia and ureteral obstruction is usually treated by a procedure to reduce pressure in the renal pelvis.

We describe a case of acute uric acid nephropathy that mimicked sudden ureteral obstruction and had elements of both intrarenal and extrarenal obstruction. Despite symptoms and changes found on pyelography study (with contrast dye given intravenously) that were compatible with complete bilateral obstruction, the patient was treated successfully by medical means.

Report of a Case

A 62-year-old man who had anuria was transferred from another hospital in August 1980. His history was as follows: He was well until 1976 when easy bruising and leukocytosis developed and a diagnosis of chronic lymphocytic leukemia was subsequently made. The patient was treated intermittently with administration of chlorambucil. In January 1980 the peripheral leukocyte count was found to be 5,000 per μ l, the hematocrit 30 percent and the platelet count 20,000 per μ l. Despite discontinuation of chemotherapy, the leukocyte and platelet counts remained depressed. An enlarged spleen was palpated, findings on a liver-spleen scan in July confirmed splenomegaly and a splenectomy was advised. He was taking hydrochlorothiazide, 50 mg, by

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